

NOTE BY THE EDITOR.

Mr. Taylor presents arguments which indicate that *Agia eborata* Hulst is a synonym of *Cysteopteryx viridata* Pack., and that Hulst made several errors in his generic definition of *Cysteopteryx*. *Cysteopteryx*, then, cannot stand, since it is founded on a total misconception, although it has priority over *Agia* by two pages. Hulst placed the genera in different subfamilies and we cannot conceive how he could have made these mistakes except by a very marked misidentification of Packard's *viridata*. If this be true, the species which Hulst had before him remains to be found.

Class I, HEXAPODA.**Order XI, ORTHOPTERA.****THE GENUS CYPHODERRIS.**

BY A. N. CAUDELL,

WASHINGTON, D. C.

This interesting genus, comprising the only winged representative of the subfamily Stenopelmatinæ found in North America, was described by Professor Uhler in 1864. The generic bibliography is as follows:

Uhler, Proc. Ent. Soc. Philad., ii, p. 551-552 (1864).

Scudder, Can. Ent., xxxi, p. 113, 117 (1899).

Scudder, Can. Ent., xxxiii, p. 18 (1901).

The genus may be characterized as follows:

Form short and stout. Legs short and moderately robust, the posterior pair scarcely saltatorial. Anterior coxæ bear an obtuse spine, often reduced to a merely noticeable angular projection; tarsi compressed, provided with pulvilli; anterior tibiæ spined on both margins below, above on the inner margin only, dilated and furnished with a broad and long tympanal cavity, visible on both faces; femora unarmed. Prosternum with a pair of broad, transverse, somewhat elongate tubercles; sternal plates prominent, posteriorly concave, the lateral angles usually quite prominent. Elytra present, small in the female, large and with a well developed musical organ in the male. Thorax cylindrical in the female, in the male posteriorly much dilated and inflated. Genital organs of the male forming a short capitate process projecting obliquely backwards from the base of the tip of the scarcely tapering abdo-

men; this capitate process bears near the end a pair of broad, flattened lateral processes; female without an exerted ovipositor; cerci well developed, four or more times as long as broad in both sexes.

This genus is referred by Professor Scudder to the group *Anostostoma*, but the little developed spines of the anterior coxæ, the fully developed tegmina and the northern distribution indicate a wide deviation from the typical forms. The well developed sound organs of the male tegmina is at variance even with the subfamily characters. It is the only genus of the *Anostostoma* found farther north in America than Mexico, and as remarked by Professor Scudder, the occurrence of the genus so much farther north than any of the allied genera is very singular. The old world representatives of the group are found in the southern hemisphere.

But one species of *Cyphoderris* is known.

***Cyphoderris monstrosa* Uhler.** (Figs. 1, ♀; 2, ♂.)

Uhler, Proc. Ent. Soc. Philad., ii, p. 552 (1864).

Walker, Cat. Derm. Salt. Brit. Mus., ii, p. 248 (1869).

Thomas, Proc. Davenp. Acad. Nat. Sc., i, p. 263, pl. 36, fig. 7, male (1876).

Scudder, Can. Ent., xxxi, p. 117 (1899).

Scudder, Can. Ent., xxxiii, pp. 17-19 (1901).

Scudder, Cat. Orth. U. S., p. 80 (1900).

Turley, Can. Ent., xxxiii, pp. 246-248 (1901).

Scudder, Psyche, ix, p. 167 (1901).

Caudell, Ent. News, xv, p. 63 (1904).

Description. — Head subglobose, rather deeply inserted in the prothorax; fastigium of the vertex broad, separate from the front and produced very slightly between the antennæ; eyes rounded, broadest above, widely separated, being separated by a space nearly five times as broad as one of the eyes. Antennæ slightly longer than the body in both sexes, filiform, slightly tapering, basal segment long and about twice as broad as the succeeding ones, second segment subquadrate, less than half as long as the first; third twice as long as broad, the succeeding ones, up to about the fiftieth, transverse, the remaining ones longer than broad. Clypeus broader than long, narrower below; labrum longer than the clypeus and as broad as the lower portion of it; terminal segment of the palpi slightly longer than the preceding one. Pronotum broad, subtruncate both before and behind in the male, in the female broadly rounded behind; in the male the pronotum is ampliate in front to receive the head and behind is still more ampliate and much inflated so as to overlie for some distance the base of the wings, the posterior lobe is flattened above and is much broader than the anterior lobe; in the female the pronotum is subcylindrical, scarcely broader behind than in front and scarcely at all inflated; in both sexes the pronotum is somewhat constricted mesially and the lateral lobes are shallow, posteriorly rounded, not at all sinuate, the lower margin meeting the anterior margin in a broadly rounded angle. Tegmina of the male broad and ample, usually covering two thirds or more of the abdomen; stridulating area well developed and the lateral field broader than

the lateral lobes of the pronotum; in the female the tegmina are small, overlap but little and project beyond the posterior border of the pronotum scarcely more than their length; wings as long as and shaped similarly to the tegmina in the female; in the male they are nearly as long as the tegmina but shrunken and useless. Legs short and moderately stout; tarsi about half as long as the corresponding tibiæ, the basal segment equalling in length that of the second and third together, being a little shorter than the terminal segment; the fore tibiæ have one or two spines above on the inner margin and below are armed with from one to three spines on each margin; middle tibiæ armed with two or three spines on each margin above and below with a single one or rarely two, near the anterior margin towards the tip* posterior tibiæ slightly expanding from the base to the tip, armed with from five to seven spines on each margin above and unarmed beneath. Besides the spines each tibiæ is furnished at the tip with large stout calcaria; posterior femora but little swollen, scarcely fitted for leaping, externally deeply sulcate near the lower margin. Abdomen large and heavy, apically truncate, tapering very little.

Professor Scudder has described the color of the living female as follows:

“Head above the antennæ bronze black, longitudinally marked with pallid luteous; genæ and face below the antennæ pale lilac, excepting the clypeus and labrum, which are pale lemon yellow, the whole marked with blackish; palpi pallid, feebly infuscated, especially the maxillary pair, in stripes and apical marginings, the extreme apex of apical joint pallid; basal joint of antennæ pallid, with broad basal and narrow subapical fuscous annuli, the remaining joints bronze black; eyes castaceous.

Pronotum subcylindrical, subequal, very feebly constricted just in advance of the middle, dull luteous with a nacreous sheen, the posterior edge and lower margins of the lateral lobes flavous or flavescent, the whole heavily and massively marked, especially in the constricted region, with very dark glistening bronze green, the whole surface, whether dark or light, sprinkled very sparsely and very inconspicuously with luteous dots. Sternal parts of thorax luteous, more or less infuscated. Tegmina reduced to minute membranous testaceous pads, concealed beneath the pronotum. Coxæ and trochanters blackish fuscous; femora luteotestaceous, the whole apex and a broad longitudinal median band on the outer side subpiceous; tibiæ pallid luteous, with a piceous stripe following the upper lateral spinigerous margins, heavier in basal than in apical half; the spines pallid or luteous, tipped with black, excepting the apical spines, which are almost wholly fuscous; tarsi very pale red beneath, pallid above, edged apically with fuscous.

* Scudder says the intermediate tibiæ are unarmed beneath.

Abdomen very plump, deeper than broad, having above the same color as the pronotum, the luteous nacre forming the base, and the bronze green, somewhat embrowned, confined to the apical margins of the segments in an irregular edging; sides of the abdomen between the dorsal and ventral scutes pale brown, sparsely sprinkled with pallid dots, the spiracles glistening bronze."

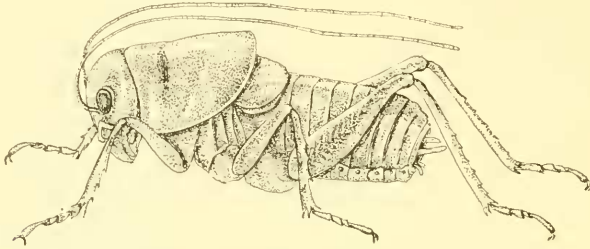


FIG. 1. ♀.

The colors of the male agree in general with those of the female except on the pronotum. Here the anterior lobe is shining black while the ampliate hinder lobe is dull luteous, the black of the anterior lobe rarely extending back upon the posterior lobe to any extent except in the variety *piperi*, described in this paper.

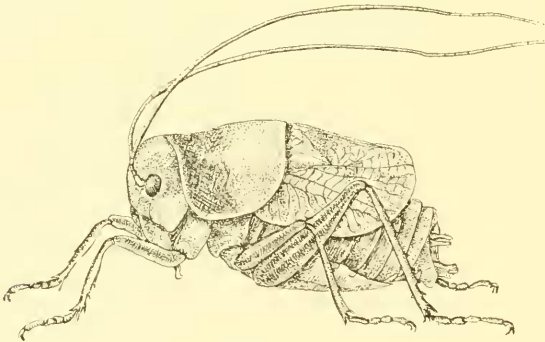


FIG. 2. ♂.

The wing characters of the female described by Scudder agree with those of what I have considered as immature forms. In the single specimen before me, which I refer without doubt to the adult form, the elytra are fairly well developed, nearly black, projecting well

beyond the thorax and slightly overlapping; the wings of the same development and shape as the elytra, being about as broad as long and nearly round. Those specimens with minute, widely separated elytra almost hidden beneath the thorax I have considered as nymphs, although some are fully as large as the single undoubted adult before me. These supposedly immature forms differ from the adult in having undeveloped wings and the legs are usually shorter, the posterior femora of even the larger specimens being in some cases scarcely more than 8 mm. in length. It is possible that this species is in the midst of the evolutionary process of becoming apterous, as indicated by the aborted under wings of the male. In this case the female with more fully developed wings may be a case of reversion to the ancestral type, in which case the supposedly immature forms may really be adults. Further material and study is needed to settle this point. I have seen no immature male specimens. One of the immature female specimens from Pullman, Washington, is wholly shining bronze black above on head, thorax and abdomen.

The following measurements are made from specimens before me.

Entire length, head to tip of abdomen, male, 21 mm., female 22 mm.; thorax, male, 8-9 mm., female, 8 mm.; posterior femora, male, 8.5-9 mm., female, 10 mm.; elytra beyond pronotum, male, 7.5-8.5 mm., female, 2.5 mm.

The type specimens, two males from Oregon, are now in the Museum of Comparative Zoölogy at Cambridge, Mass.

This species, though for a long time considered a rare insect, the female insect being unknown till 1901, has now been found in injurious abundance in Idaho, eating off the fruit buds of peach and cherry trees. Mr. Louis W. Turley has given a most interesting account of this insect, *Can. Ent.*, xxxiii, 246-268 (1901). The following notes are taken from this account, which embodies nearly all that is known of the natural habits of the species. The writer found the males in considerable numbers in a pasture near Moscow, Idaho, where they were sitting on posts, grass stems and other objects at dusk. Here they sat, several inches to a foot above ground, with the head down, and stridulated with their short broad wings. The inverted position seemed to be assumed to facilitate escape when disturbed, though the writer states that they crawl slowly down when disturbed, though one would naturally expect them to drop suddenly to the ground in such a case. The notes are said to resemble those of the tree cricket,

Ecanthus fasciatus [*nigricornis*], but are more subdued and ventriloquial, and with longer pauses between the measures. When captured the songster, which mimics very closely in appearance old empty capsules of the fleur-de-lis, made no struggle. When two were put together in the light they fought fiercely, one or both lying down, kicking and biting. Many males were taken but no females were found. Later a Mr. Stanley reported the insect in injurious numbers at Cœur d'Alene, Idaho, where they ate the buds of fruit trees, the females alone being concerned, the males not being seen at this place. Specimens were sent to the Experiment Station of Idaho by Mr. Stanley where the identification was made. The most destructive visit of the insect is said to have lasted about three weeks during the month of May and the best way of combatting them was to jar them into sheets spread under the trees at night. They are said to live in holes in the ground, coming out at night to feed. It scarcely seems credible that these devastating females were really of this species but, if so, the best remedy would seem to be the placing of bars around the trees to prevent the insects from climbing up them.

This insect seems incapable of leaping more than half an inch. They are nocturnal in habit being more active by night than by day. They are clumsy, slowly moving creatures. The only living specimen I ever saw, one taken at Ainsworth, B. C., was floundering helplessly in a wagon track.

The following material comprises all the material seen by me: Banff, Alberta, one mature female, August 8, 1903 (N. B. Sanson); one immature female, 1902 (J. Fletcher); Ainsworth, B. C., one immature female, July 10, 1903 (A. N. Caudell); Bear Mt., Lolo Trail, Idaho, alt. 6,000 ft., one immature female, August, 1902 (C. V. Piper); Pullman, Washington, alt. 2,500 ft., two mature males, no date (H. E. Burke); six mature males, May 10–June 2, 1901, and two immature females, April 5–May 10, 1902 (C. V. Piper); Mt. Rainier, Washington, one mature male, two immature females (C. V. Piper).

Except the type locality, Oregon, these represent all the localities from which this species has been recorded except Wyoming where it was collected by Putnam and recorded by Thomas in 1876.

The mature male and two immature females from Mt. Rainier constitute a rather striking variety which may be designated as *Cyphoderris monstrosa* var. *piperi*, and described as follows:

Cyphoderris monstrosa piperi, new variety.

Distinguished from the typical *monstrosa* by the average greater size, rougher and more opaque surface of the pronotum and by the color of the pronotum. In structure like *monstrosa* but different in general appearance. Pronotum more opaque and mesially more profoundly incised dorsolaterally, in the male the posterior lobe rising more rapidly posteriorly and the surface much more coarsely ridged longitudinally than in the typical *monstrosa* and the deep black of the anterior lobe is less glistening and is continued across the lateral lobes to the posterior border and thence along the hind border across the top, leaving only the center of the pronotum and the lower margin of the lateral lobes without infuscation.

Length, male, 27 mm., female, 31 mm.; pronotum, male, 8.5 mm., female, 7 mm.; posterior femora, male, 12 mm., female, 11 mm.; wings beyond pronotum, male, 8.5 mm., female, 1 mm.

Type. — No. 7723, U. S. National Museum.

The collector, in whose honor this interesting variety is named, furnishes the following note on the habitat of the insect:

“These specimens were collected in Paradise Valley on the south side of Mt. Rainier, Washington, at the point called ‘camp of the clouds,’ altitude about 6,000 feet. They were collected during the daytime hidden under débris in a grove of alpine fir. No memorandum was made concerning their notes.”

Class III, ARACHNIDA,**Order I, ACARINA,****FOUR NEW SPECIES OF INJURIOUS MITES.**

BY NATHAN BANKS,

WASHINGTON, D. C.

(PLATE II.)

The following four new species of mites are all of considerable economic importance. They have been received by the U. S. Department of Agriculture, Division of Entomology during the past year. The manuscript names of some of them have already appeared in print, therefore it is useful to have the technical descriptions issued at an early date.